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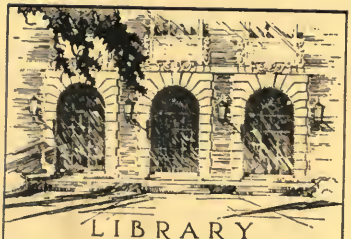

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PLASTRAL ASPECT OF *Podocnemis olssoni*, sp. nov., Type. × 2/5

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A FOSSIL TURTLE FROM PERU

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A FOSSIL TURTLE FROM PERU

BY

KARL P. SCHMIDT

A fossil turtle represented by the nearly complete plastron and by an internal cast of the entire shell was presented to Field Museum of Natural History by Dr. Axel A. Olsson, geologist for the International Petroleum Company of Peru.

This specimen was collected by Mr. Oscar Haught in the course of drilling operations near Mogollon, about twenty miles northeast of Negritos, in the oil field of northwestern Peru. Concerning the horizon, Dr. Olsson writes me that it was found in the Quebrada Mogollon, in certain shore-face sandstones of Middle Eocene age, belonging to the Salina Group, or to the lower part of the Clavilithes series of Bosworth's classification.[1]

The fossil in question formed the nucleus of a sandstone concretion about sixteen inches in length, of which one side had been split off, exposing the carapace, long before it was found. The fossilized shell material of the exposed side was entirely lost, leaving the somewhat weathered surface of the internal cast of the dorsal half of the shell. Fortunately, the remaining part of the concretion, when split open, disclosed the plastron intact, most of it attached to the outer part of the concretion, so that it is the inner surface of the shell that is exposed. The concretionary material encloses a few obscure molluscan remains.

There is no difficulty in the identification of this turtle as to genus. The presence of very distinct mesoplastral bones, situated on the bridge between plastron and carapace, and widely separated from each other, refers it at once to the genus *Podocnemis*, of the family Pelomedusidae. The conformation of the plastral bones in general is much like that of the living *Podocnemis sextuberculata* as figured by Boulenger.

Type material.—F.M.N.H. No. P 14172. From Mogollon, about twenty miles northeast of Negritos, Piura, Peru. Collected by Mr. Oscar Haught in 1927. Internal cast of carapace and plastron, with most of plastron intact, on the outer of the two pieces into which an originally single concretion has been split.

[1] Iddings, Arthur and Olsson, A. A., Geology of Northwest Peru, Bull. Amer. Assoc. Petrol. Geol., Vol. XII, 1928, pp. 1–39, Plate 1, 3 figs.

Horizon.—Shore-face sandstones of the Salina Group, Middle Eocene.

Order TESTUDINATA Oppel
Family PELOMEDUSIDAE Cope
Genus PODOCNEMIS Wagler

PODOCNEMIS OLSSONI[1] sp. nov. Plates XLVI and XLVII.

Description of type.—Carapace oval, convex, its posterior margin flattened into a horizontal rim; costals 8; neurals apparently narrow; pygal nearly as long as wide. Plastron rounded in front, produced posteriorly into two subacute points which enclose a deep, symmetrically rounded emargination; front lobe of plastron broadly rounded, sides sloping toward the bridge; posterior lobe much longer, constricted just behind the bridge; eleven plastral bones; epiplastra with an abrupt angle in the middle of their hyoplastral border; entoplastron kite-shaped, instead of diamond-shaped as in *P. sextuberculata;* mesoplastra irregularly six-sided, without acute inner angle, their inner angles well outside of the plastral border (if produced across the bridge); buttresses well developed; xiphiplastra with strong scar of pelvic attachment; external surface with fine vermiculate sculpture.

Diagnosis.—Mesoplastral bones widely separated, situated on the bridge. Posterior lobes of plastron with deep emargination whose outline is nearly circular. Inner angle of the mesoplastrals well outside the lateral contour of the plastral lobes, produced across the bridge. Nearest ally (suggested), the living *P. sextuberculata* of the upper Amazon region.

MEASUREMENTS

	MM.
Length of carapace (approximate)	333.0
Width of cast of carapace	266.0
Length of plastron on mid-line	235.0
Total length of plastron	273.0
Width of plastron:	
at epiplastral-hyoplastral sutures	100.4
to inner angles of mesoplastra	179.0
at hypoplastral-xiphiplastral sutures	145.0
Plastral sutures and shields:	
epiplastral suture	14.1
length of entoplastron	50.6
hyoplastral suture	43.1
hypoplastral suture	61.2
xiphiplastral suture	55.3
hyo-hypoplastral sutures	87.3–87.3
length of mesoplastra	38.6–38.6
width of mesoplastra	40.4–41.6

[1]Named for my old friend in laboratory and field, Dr. Axel A. Olsson, well known for his contributions to the paleontology of the American Tertiaries.

Remarks.—*Podocnemis olssoni* appears to be more nearly allied to the living *Podocnemis sextuberculata*[1] of the Amazon than to any of the extinct Eocene forms of other parts of the world. It is well distinguished from *sextuberculata* and other living forms by the relatively large size of the posterior lobe of the plastron. This character distinguishes it also from the Egyptian *P. antiqua* Andrews, of the Fayum. The sharply angulate epiplastral-hyoplastral suture and the more laterally placed mesoplastrals distinguish *olssoni* from *P. fajumensis* Andrews, also from the Egyptian Eocene.[2] *P. bowerbanki* of the London Clay has a very wide bridge, posterior emargination of the plastron slight, and mesoplastra with acute mesad points.[3]

Fossil material referable to the genus *Podocnemis* was first reported from South America by Pacheco in 1913.[4] He describes a fragment of a posterior lobe of a plastron from the apparently Cretaceous Bauru Formation at Barretos, São Paulo, southeastern Brazil, as *Podocnemis harrisi*. This species, from the opposite side of South America, differs radically from the new species in the shape of plastron as well as in the arrangement of the pelvic scars. The fragment of shell on which the Cretaceous *Podocnemis harrisi* is based is insufficient for final conclusion as to its generic identity. In naming the second extinct South American species of this genus, I take an especial pleasure in thus associating Dr. Olsson's name with that of Professor Gilbert Dennison Harris, for Olsson and the writer, equally with Pacheco, had the unforgettable privilege of association in field and laboratory with that inspiring teacher.

The existence of *Podocnemis* in South America in Eocene time establishes it there as a contemporary of the Eocene species in England, India, Egypt, Malta and the Congo.[5] As I interpret this distribution (together with that of the living species of the genus, which are confined to South America and Madagascar) in the light

[1] Lydekker, Richard, Catalogue of the Fossil Reptilia and Amphibia in the British Museum (Natural History). Part III, Containing the Order Chelonia. London: Printed by Order of the Trustees, 1889, pp. 239, 53 figs.

[2] Andrews, C. W., A Descriptive Catalogue of the Tertiary Vertebrata of the Fayum, Egypt. British Museum (Natural History). London: Printed by Order of the Trustees, 1906, pp. XXXVII and 324, 26 pls.

[3] Owen, Richard, Reptilia of the London Clay, Monogr. Paleontol. Soc., Vol. I, 1849, part 1, p. 70, pl. 23.

[4] Pacheco, Joviano a d'Am.[si] Notas sobre a geologia do valle do rio Grande a partir da foz do Parde até a sua confluencia com o rio Parahyba (in Dourados, S. José Dos, Exploração do Rio Grande e de seus affluentes). Relatorio Comm. Geogr. Geol. São Paulo, 1913, pp. 33–38, pls. 1–4.

[5] The Paleocene form described by Dollo as *Podocnemis congolensis* has subsequently been referred to a distinct genus, *Bantuchelys* Dollo.

of the Matthewsian scheme of dispersal from the northern hemisphere,[1] the spread of the genus must have taken place before the late Mesozoic. I am unable to believe that "Gondwana land" or von Ihering's "Archhelenis"[2] are necessitated as hypothetical land connections in the southern hemisphere by the distribution of this and other forms; but the occurrence of *Podocnemis* in the Eocene deposits of South America pushes the period of world-dispersal of these turtles far back into the Mesozoic.

Matthew's hypothesis involves the supposition that *Podocnemis* reached South America by way of North America or from North America; and the discovery of fossil remains of this genus in North America may therefore be predicted as a necessary corollary of the thesis of Holarctic Mesozoic dispersal.

[1] Matthew, W. D., Climate and Evolution. Ann. N. Y. Acad. Sci., Vol. XXIV, 1915, pp. 171–318, 33 figs.

[2] Ihering, H. von, Les Mollusques fossiles du Tertiare et du Cretace Superieure de l'Argentine, An. Mus. Nac. Buenos Aires, Vol. VII, 1907, pp. 1–576, pls. 1–17.

CARAPACIAL ASPECT OF *Podocnemis olssoni*, sp. nov., Type. × 2/5

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